

Georgia Department of Natural Resources

205 Butler Street, S.E., Suite 1154, Atlanta, Georgia 30334

Lonice C. Barrett, Commissioner

Environmental Protection Division

Harold F. Reheis, Director

404/656-7802

October 22, 1999

TRIP REPORT

SITE NAME AND LOCATION: General Motors
3900 Motors Industrial Way
Doraville, Georgia 30360-3163
EPA I.D. No. GAD003310810

TRIP BY: Kenneth Grall KA
Environmental Engineer

ACCOMPANIED BY: Robert Pierce - Georgia EPD
Geologist

Houston Gilliland, Jr. - U.S. EPA
Environmental Scientist

DATE OF TRIP: September 21-22, 1999

OFFICIALS CONTACTED: Don Smith - General Motors
Environmental and Energy Manager

REFERENCES: Compliance Evaluation Inspection (CEI)

BACKGROUND:

The purpose of this trip was to conduct the 1999 financial fiscal year Compliance Evaluation Inspection (CEI) of the General Motors Doraville facility (GM). A CEI is a routine inspection of hazardous waste generators, transports, and treatment, storage, and disposal facilities to evaluate facility compliance with applicable RCRA standards promulgated in 40 CFR 260-270, 273 and 279. The facility was also evaluated on compliance with Georgia Rule 391-3-11-.19, Standards for Waste Mercury-Containing Lamps.

GM assembles new model mid-size minivans at the Doraville facility. These minivans include the Pontiac Transport, the Chevrolet Venture, and the Oldsmobile Silhouette.

On May 20, 1999 the Focused Risk Assessments for Stormwater Retention Pond (Area 1) and the Tank Farm (Area 6) was approved except for the groundwater exposure assessment for Area 6. Since GM chose not to evaluate the groundwater for future risk

corrective action was imposed. The remediation goals are the default cleanup goals in Georgia; drinking water maximum contaminant levels (MCLs). Where an MCL does not exist for a particular constituent background is the cleanup criteria. During the CEI the corrective action plan was given to me.

In 1996 GM installed the Metal Fabrication Division Plant on the north east corner of the plant property. The Metal Fabrication Division Plant is under the same corporate head (General Motors) as the Assembly Division Plant and are in connecting buildings. The Metal Fabrication Plant, often referred to as the Stamping Plant, stamps the body parts used in the production of minivans.

INSPECTION:

Upon arriving at the facility we met with Don Smith. Camera passes were obtained and we proceeded with inspecting the Stamping Plant. The Stamping Plant receives rolls of sheet metal from which GM's mid-size minivans' body parts are cut and stamped. No hazardous wastes were being generated in the Stamping Plant.

Once the inspection of the Stamping Plant was completed we proceeded to the Assembly Plant. The general course of the inspection followed initial materials receipt to product completion. During the inspection waste generation and management points were scrutinized. GM's hazardous wastes are predominantly generated as a result of the painting process. A general outline of the painting process is listed below.

Painting Steps

1. Galvanized steel or aluminum.
2. Zinc phosphate chemical conversion coating.
3. ELPO painting.
4. Priming.
5. Basecoat.
6. Clearcoat.

The first three steps of the painting process is required for rust protection, the last three are for appearance. The phosphate coating process generates a F019 wastewater treatment sludge. The ELPO painting process generates filters that are characteristically hazardous for lead. The final painting steps generate waste solvents and paints.

Phosphate Process

GM establishes a corrosion resistant base to the galvanized steel and aluminum by using a chemical conversion coating process. This process proceeds as follows:

1. Automobile bodies are pre-cleaned with a neutral cleaner to remove any oil and water-based drawing lubricants from the metal.
2. An alkaline cleaner is then used to prepare the metal for application of the phosphate coat.
3. The bodies are dip rinsed in warm city water.
4. A rinse conditioner is sprayed on the bodies in order to promote phosphate crystal refinement.

5. A zinc-iron phosphate coating solution is sprayed next. This solution provides a micro-crystalline corrosion resistant base.
6. A cold city water rinse is then applied in order to neutralize the phosphate coating.
7. In stage seven a chromium nitrate (Cr^{+3}) sealer is applied to remove soluble chromium salts.
8. The bodies are at last rinsed with deionized water.

The overflows from this process are sent to the onsite wastewater treatment plant where the sludge is generated. The sludge is not characteristically hazardous, though meets the definition of a F019 waste due to the chemical conversion coating of aluminum. A delisting application is being prepared for this waste stream.

ELPO Filter Bags

The ELPO paint is the outermost layer of rust protection. The vehicle is painted by submerging the body in a tank of water based prime paint that contains lead. The lead gives the paint its corrosion protection properties. In this process the paint tank is charged and the body grounded so that a uniform coating of paint is applied to all surfaces of the vehicle. The paint for this process must be filtered to remove impurities that might deposit on the metal surfaces. This filtering process generates the ELPO filter bags which are characteristically hazardous for lead.

Painting Operations

Once the corrosion protection has been applied the vehicle is primed and the basecoat and clearcoats are added. This is done through a single primer booth, eight base coat booths and eight clear coat booths. The hazardous wastes generated in these areas are waste paint (D001) and waste purge thinner (F003, F005). Over the past year GM has been installing new paint robots. These robots have better purge efficiencies providing a reduction in the quantity of waste purge thinner that is generated. The old paint robots generate 1.77 gallons of waste purge thinner per vehicle produced while the new robots generate 1.00 gallon per vehicle. Waste paint generation is reduced by batch painting in order to reduce change out.

The waste purge thinner is accumulated for less than 90 days in a 7,500 gallon tank that meets Tank Level 1 controls. The tank is located in the paint kitchen and has secondary containment. In response to the 1998 FFY CEI GM installed an impervious coating to the concrete liner system. A combination conservation vent and flame arrestor is connected to the tank system to control air emissions.

Seven spray booth touch-up bays are present for final repair to a damaged vehicle. In each touch-up bay a gun cleaner box is present that contains a mixture of paint and solvent. At the end of each day all gun cleaner boxes are emptied and the material is wasted in a satellite accumulation drum.

Hazardous Waste Storage Area

All hazardous wastes GM generates, except for the waste purge thinner that is collected in the aforementioned tank system and the F019 sludge, are accumulated in the hazardous waste storage area prior to offsite shipment. During the inspection the following wastes were being accumulated in this area:

- ELPO filter bags (D008),
- waste thinner (D001),
- waste rags (D001),
- used oil,
- lead acid batteries (universal waste), and
- mercury containing bulbs (D009)

Wastewater Treatment Sludge

The wastewater treatment sludge is listed as a F019 waste due to the chemical conversion coating of the aluminum vehicle hoods. This waste is generated at the wastewater treatment plant and is accumulated in a 30 yd³ rolloff container. GM was in the process of installing a new filter press that will dewater the sludge more efficiently.

During the walk through inspection no violations were noted.

After completing the walk through inspection we proceeded with records review. This took place back in Don Smith's office. The records reviewed included the following:

- Manifests,
- Land disposal restriction notifications,
- Personnel training records,
- Contingency plan,
- Preparedness and prevention equipment inspection records (These records were throughout the facility and inspected during the walk through.),
- Waste analysis plan,
- Container and tank inspection logs,
- Tank system integrity and design assessments,
- Spill reports,
- Biennial reports,
- Hazardous waste reduction plans,
- Hazardous site response program fee records, and
- Subpart AA, BB and CC design and initial assessment records.

All records appeared to be complete.

CONCLUSIONS:

No violations were noted during the walk through inspection and records review.

RECOMMENDATIONS:

Report the findings of the inspection to the facility in a compliance status letter.

PHOTOGRAPHS: Nine

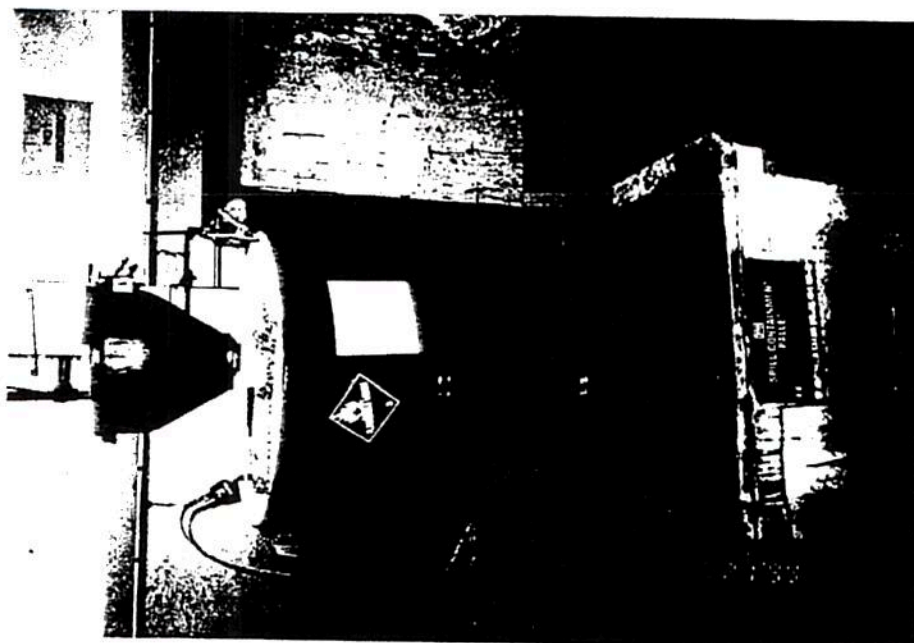
SAMPLES: None

REVIEWED BY:

D. Yordanian

ATTACHMENTS: Photo Log

c: Jeff Pallas - EPA Region IV
File: General Motors - Doraville (R)
R:\KENG\GM-DOR\TRIP2.CEI



COUNTY:

Dekalb

NO. 1 OF 9

SITE NAME:

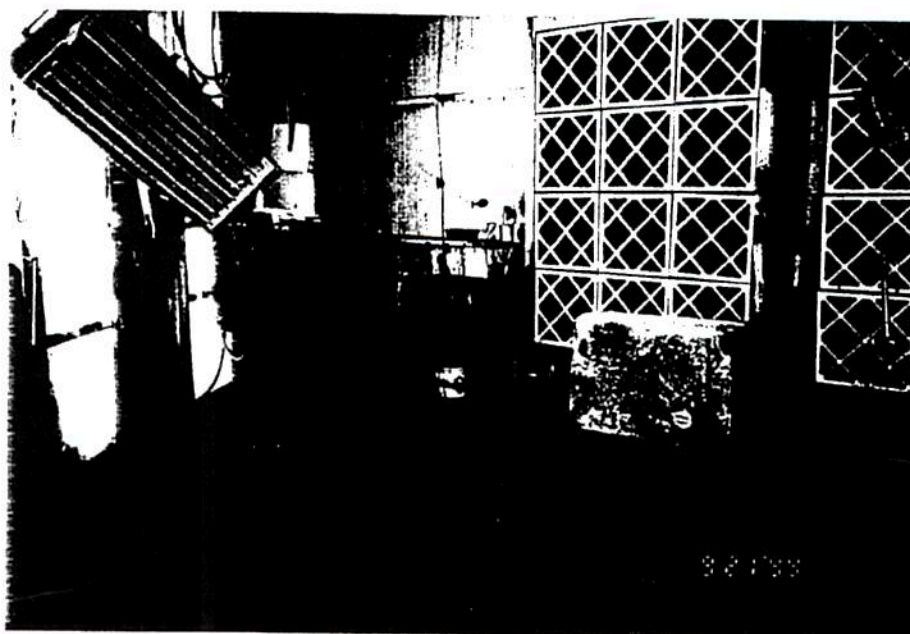
GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: Satellite accumulation drum for the spray booth touch-up bays.



COUNTY:

Dekalb

NO. 2 OF 9

SITE NAME:

GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: Spray booth touch-up bay. Seven of these bays exist. The spray gun cleaner box is the red container along the back wall.



COUNTY:

Dekalb

NO. 3 OF 9

SITE NAME:

GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: Hazardous waste less than 90 day accumulation area.



COUNTY:

Dekalb

NO. 4 OF 9

SITE NAME:

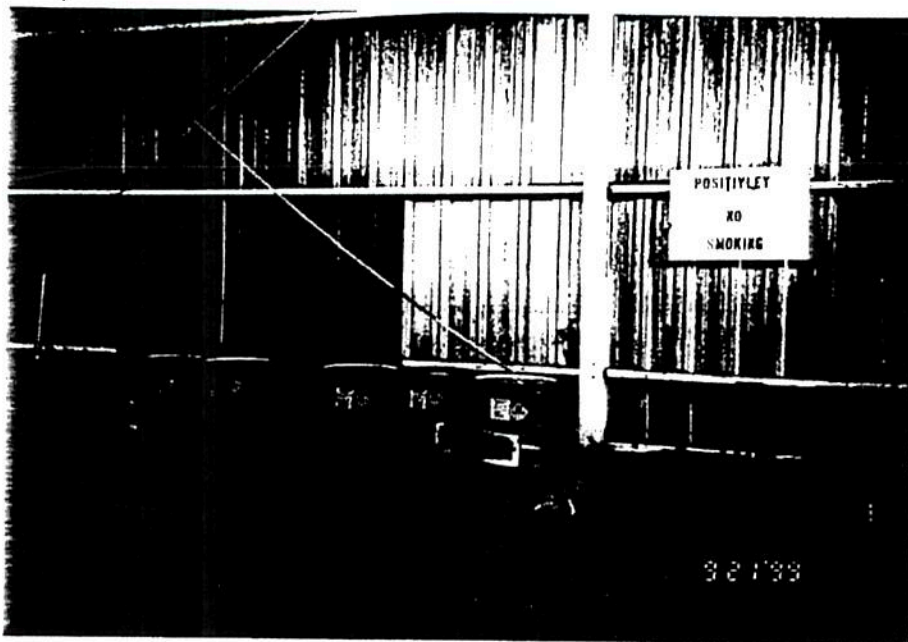
GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: Hazardous waste accumulation area. The ELPO filter bags are accumulated in the roll-off container.



COUNTY:

Dekalb

NO. 5 OF 9

SITE NAME:

GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: Hazardous waste accumulation area. Waste solvent / paint related material is in the drums.



COUNTY:

Dekalb

NO. 6 OF 9

SITE NAME:

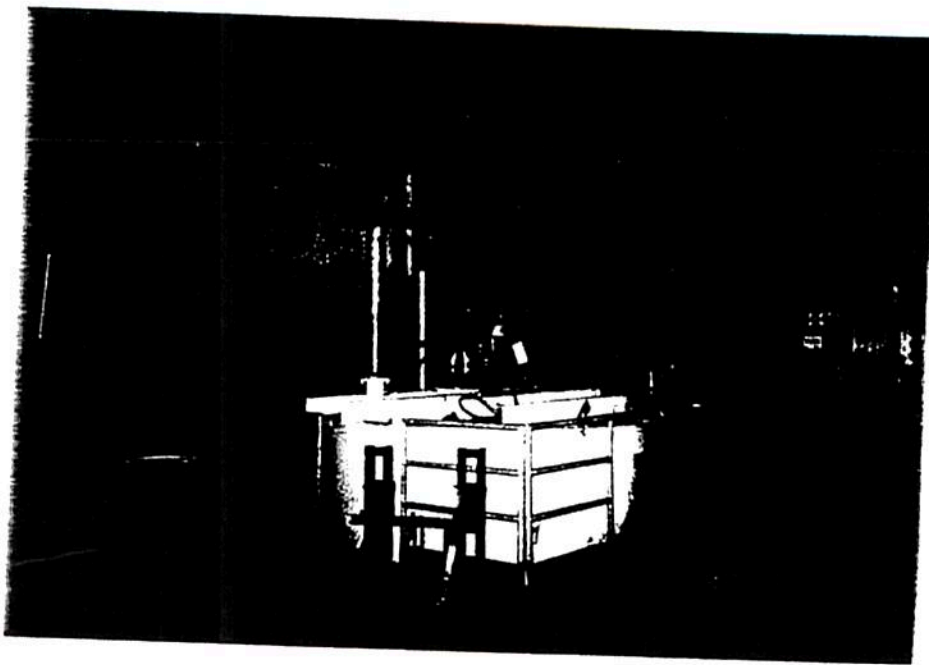
GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: Hazardous waste accumulation area. Waste lead acid batteries are accumulated on the spill contained pallets.



COUNTY:

Dekalb

NO. 7 OF 9

SITE NAME:

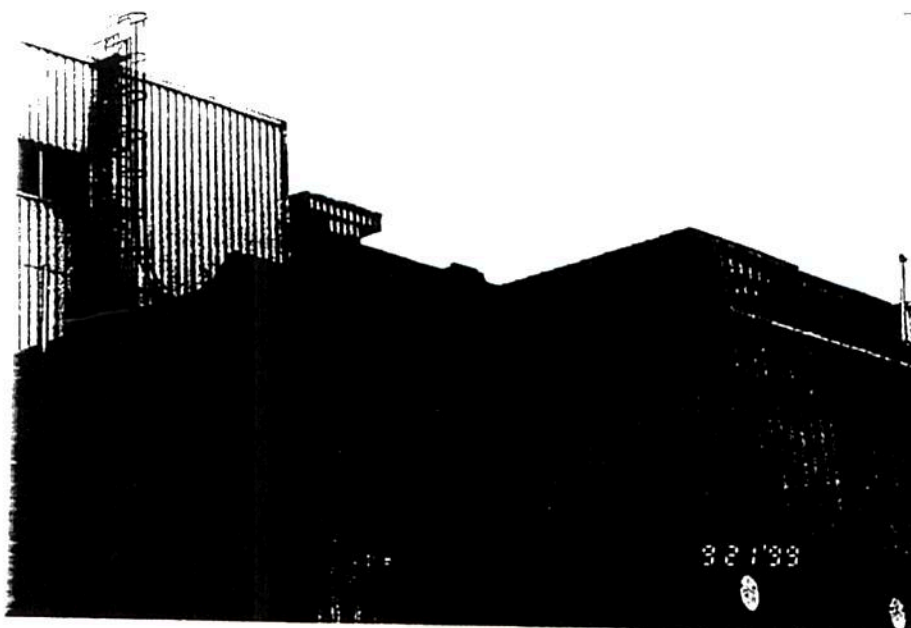
GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: The white tank is the waste purge thinner tank. The silver tank is for virgin solvent.



COUNTY:

Dekalb

NO. 8 OF 9

SITE NAME:

GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: The conservation vent / flame arrestor for the waste purge thinner tank can be seen on top of the building.



COUNTY:

Dekalb

NO. 9 OF 9

SITE NAME:

GM - Doraville

DATE: 9/21/99

PHOTO BY:

Ken Grall

EXPLANATION: F019 sludge is accumulated in this container.